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very far from the truth ; but it is better to err in this way than, by confining ourselves to the establishment of dry abstract principles, however interesting or important, to let pass an opportunity of forcibly drawing the attention of the public to a great evil, equally commanding and admitting of a remedy.

In all investigations of this nature there is much room for error. Some standards of comparison essential to accuracy are at present wanting. Causes and effects are so mixed up that it is impossible to separate them. The disease which by destroying the adult puts a younger man into his place, also alters the distribution of the population, so as to swell the number of its own victims ; and thus all attempts at perfect accuracy are rendered abortive. Approximations confessedly imperfect, and estimates necessarily rude, must hold the place of those accurate results which force conviction. The author would therefore again guard against misconception. He has not dared to characterise his results as certain or accurate, but merely as approximations to truth, and probabilities more or less strongly confirming one another. His estimates are open to correction, and await that correction at the hands of himself or others ; but he trusts that, in the absence of that certainty of which he is in search, the probabilities he has established will serve the purpose of attracting attention to a part of the great subject of public health which has hitherto received comparatively little attention ; and, in conclusion, he may be allowed to express his own conviction, that the evils which have been pointed out are not exaggerated.

Two tables are subjoined, which form a useful summary of the chief probabilities thrown together in the three communications, of which this is the last.

On the Progress of the Population of Russia. By MAJOR GRAHAM,
Registrar-General.

SIR,

General Register Office, June, 1844.

I ENCLOSE an abstract of a Return which I have recently received of the population, marriages, births, and deaths, in the principal provinces of the Russian empire. I am indebted to the liberality of Count Nesselrode for this Return ; which was procured at the instance of Lord Aberdeen, by Lord Stuart de Rothsay, and forwarded to me by Sir James Graham.

I have obtained from other countries similar Returns, to compare with those made under the Registration Act in England. I submit this to the Members of the Statistical Society, as I believe that no Return of the kind has been published before out of Russia ; and it appears to me to possess an unusual degree of interest, not only from its novelty, but from the extent of the population, and the varieties of climate and circumstances in which the people of the several provinces are placed.

The Return is for the year 1842, and the abstracts of marriages, births, and deaths, had not been received from Georgia, Koursk, the Trans-Caucasian, or the Caspian provinces : neither have we included in the Return Finland, Poland, the Don Cossacks, the Cossacks in the country of the Black Sea, and of the Oural ; the provinces of Iakotsk, Kamschatka, Okhotsk, or Russian America. The population of the Russian empire exceeds 60,000,000 ; of which the Returns from 53

provinces specify 52,682,711; and give the marriages, births, and deaths among 49,525,420 persons (24,559,414 males, and 24,966,006 females) in the European (and partly Asiatic) provinces,—in Tobolsk, Tomsk, Irkutsk, and Eniseisk,—four provinces of Siberia. The marriages returned were 501,850; the births 2,205,422; the deaths 1,856,183.

The excess of births over deaths was 349,239. This would indicate an increase of 0·7 per cent. (or 7 per 1000) annually.

		Males.	Females.	Total.
1842	Population . . .	24,559,414	24,966,006	49,525,420
	Married . . .	501,850	501,850	1,002,700
	Births . . .	1,127,122	1,078,300	2,205,422
	Deaths . . .	931,635	924,548	1,856,183

The proportion of marriages, births, and deaths, to the population, is shown in the annexed Table (A). I think it very probable that the Returns of births and deaths include still-born children, which are generally registered on the Continent, but have not hitherto been registered in England. As the Returns stand, the births were 4·45 per cent., the deaths 3·75 per cent., of the population. A correction for the still-born would reduce the births to about 4·2, the deaths to 3·5 per cent.

In Russia 1 in 99 persons marries yearly; in England the proportion of marriages is much less, 1 in 128. The births in Russia are more than 8 per cent. on the female population. The mortality in Russia was 1 in 27; and as the population is increasing, we know that the mean duration of life is somewhat lower than 27 years. The mortality in England is 1 in 45 annually, and the expectation of life 41 years.

The comparison would seem to indicate that in Russia marriages are earlier than in England—that more persons marry—that the number of children borne by a given number of women is greater in a given time—that fewer children attain maturity—and that, notwithstanding the rigorous climate, and the causes of insalubrity, the excess of births over deaths adds 300,000 or 400,000 persons every year to the part of the population embraced in the Returns.

The area of the Russian empire is estimated at 7,700,000 English square miles. The area of the 49 European provinces, for which the population of 49,102,697 was returned, is 1,731,324 English square miles; the density is therefore 28 persons to an English square mile, and 38 to a geographical square mile. The density of England and Wales was 276 persons to an English, 366 to a geographical, square mile, in 1841. The area of the two provinces of Siberia,—Tobolsk and Tomsk,—is said by Mr. Koeppen in an official statement (quoted by McCulloch) to be equivalent to 1,887,569 English square miles. The population of these provinces was 1,315,461 in 1842; and the mean density was therefore less than 1 person to every square mile,—it was 7 to 10 square miles. In the rest of the empire around the arctic region, to which our Return does not extend, there is, according to Mr. Koeppen's statement, not more than 1 person to 4 English square miles.

Russia, as is well known, is divided into viceroyalties, provinces (or *oblasts*), and districts. The Return in my possession gives the population, marriages, births, and deaths, in each district and province. The abstract which I enclose carries the subdivision no further than provinces.

The Table (B) of the proportion of marriages, births, and deaths, in each province to 100 females living, shows that in some parts of Russia the mortality is less than in some counties of England; but, as a general rule, the mortality was greater than in England. It was greatest in the southern provinces,—from Nijgorod to Ekaterinoslav on the Sea of Azov, including the most fertile of the corn districts, Kharkoff, Penza, Pultava, Viatka, Nijgorod, Saratoff, Riazan, Ekaterinoslav, Orel, Tamboff. The annual mortality was from 4·3 to 5·3 per cent. in these provinces, which lie in the basin of the Dnieper, Don, and Volga; with the general aspect of the country looking south, and towards the Black Sea, the Caucasus, and the Caspian.

The mortality of the northern parts of Russia is generally below 3 per cent. annually; this was the case in Archangel, Minsk, Courland, Esthonia, Olonetz, Pskoff, Vologda, Kalouga, Grodno, Vitepsk, Novgorod, Moghileff. The rivers of those regions flow north or north-west into the Arctic Ocean, the White Sea, and the Baltic. In Wilma and Livonia, the mortality was 3·3 and 3·2, slightly above 3 per cent; in Petersburg (province) 3·8 per cent: with these exceptions, the mortality of the parts sloping towards the north or north-west, was a fourth or a fifth less than in the southern provinces.

In Tomsk and Irkoutsk, two vast provinces of Siberia, the mortality was so low as 2·4 per cent.; in Tobolsk, however, it was 3·6 per cent.

These remarks refer to females, but the mortality of males and females is nearly the same in Russia.

This Return, I may remark, has evidently been drawn up with great care and accuracy. It gives us a high opinion of the administrative talent and energy with which the Government is carried on.

Those acquainted practically with these matters will be aware how arduous an undertaking it must be to procure a census, and periodical Returns of the marriages, births, and deaths, from such a vast population, so thinly scattered over the face of the country, that in some provinces there is not one inhabitant to a square mile of territory.

The mere fact of registering the marriages, births, and deaths, is also a proof of the deep interest with which the Russian Government regards, and endeavours to promote, the physical interests of the population under its charge.

I am, Sir,

Your obedient Servant,

GEORGE GRAHAM,

Registrar-General.

Joseph Fletcher, Esq.,
&c.

&c.

TABLE A.

Rate of Increase of the Population of Russia; and Proportion of Marriages, Births, and Deaths, to the Population, in England and Russia, compared.

Annual rate of increase, .7 per cent.—Males, .81; Females, .62.									
	One Marriage to			One Birth to			One Death to		
	Males.	Females	Males and Females	Males.	Females	Males and Females	Males.	Females	Males and Females
Russia (1842) . .	49	50	99	11	11	22	26	27	27
England (1838–41)	63	65	128	15	16	31	43	47	45

	To 100 Males			To 100 Females.			To 100 Persons.		
	Marriages.	Births.	Deaths of Males.	Marriages.	Births.	Deaths of Females	Marriages.	Births.	Deaths.
Russia* . .	2.043	8.980	3.793	2.010	8.834	3.703	1.013	4.453	3.748
England . .	1.599	6.539	2.308	1.528	6.250	2.131	.781	3.197	2.219

* The still-born are probably included in the Russian returns of births and deaths. Applying a correction derived from the Prussian returns, in which the numbers still-born are specified, the corrected mortality of Russia will be 3.590, the births 4.296, per cent. annually.

Note.—The return does not state the ages of the living, the ages at death, nor the causes of death; but it is very probable that all these particulars will ultimately be procured. Professor Schubert's volume, "Das Russische Reich," in his "Handbuch der Allgemeinen Staatskunde von Europa," contains a tolerably good account of the progress of statistics in Russia. The first census (Revision) was taken in 1723, in connexion with a poll-tax, and was to be repeated every 20 years; but it embraced only 5,794,928 males subject to the tax. The church registers were instituted by Peter the Great, in 1722; but their organization was only completed in the time of Catharine II. "From the time of Catharine," says Schubert, "two abstracts were made: (1) the one for the Senate, classed in governments and provinces, first introduced in 1768 by Count Sievers in the governments of Novogorod and Tver. It embraces all the religious sects, *but has not hitherto been made public* ("sind aber bis jetzt noch nicht öffentlich bekannt gemacht"). (2) The other return, for the Holy Synod, is made in 36 eparchies, which only comprise the members of the Greek Catholic Church (Griechisch Catholischen Kirchen). A summary of this return is published every year."† Schubert's calculations are all founded on the ecclesiastical returns. It appears, therefore, that Russia has had for many years two systems of registration in operation (as England has at the present time),—the registers of the established Greek Church,—and the civil registers, which are made for the Imperial Government, and of which the return in Table C. is a detailed abstract.

† Schubert, vol. i. p. 147.

TABLE B.—*Density of the Population, and Proportion of Marriages, Births, and Deaths, in the several Provinces of Russia.*

		Average Popu- lation to a Geo- graphical square Mile (of 60 to a Degree).	To 100 Females Living.		
			Marriages.	Births.	Deaths (of Females).
Northern Provinces.	1. Archangel	•9	1.546	8.100	2.222
	2. Olonetz	6	1.911	9.412	2.692
	3. Vologda	7	1.841	9.306	2.801
	4. Petersburg. . . .	41	1.756	9.739	3.770
	5. Novgorod	21	1.828	9.102	2.972
	6. Pskoff	43	1.523	9.112	2.766
	7. Smolensk	70	2.247	9.823	3.263
	8. Moscow	159	2.135	9.019	4.010
	9. Tver	74	1.930	9.301	3.030
Great Russia.	10. Jaroslaff	79	1.440	8.188	3.367
	11. Kostroma	43	1.592	7.626	3.290
	12. Nijgorod	79	1.950	8.758	4.684
	13. Wladimir	85	1.821	8.352	3.941
	14. Riazan	109	2.517	8.296	4.450
	15. Tamboff	90	1.930	7.393	4.279
	16. Toulá	139	3.223	8.411	4.171
	17. Kalouga	109	2.138	7.842	2.866
	18. Orel	117	2.421	9.311	4.320
	19. Koursk	142	..	..	..
Baltic Provinces.	20. Esthonia	56	1.657	7.586	2.627
	21. Livonia	59	1.738	8.158	3.048
	22. Courland	67	1.772	6.692	2.453
White Russia.	23. Vitepsk	59	1.123	8.532	2.928
	24. Moghileff	63	2.129	9.263	2.983
	25. Minsk	33	1.550	6.800	2.360
Lithuania.	26. Wilna	69	1.940	8.911	3.345
	27. Grodno	82	2.330	9.078	2.922
	28. Bielostock	103	1.572	7.773	3.025
Little Russia.	29. Volhynia	82	1.689	8.764	3.764
	30. Podolia	164	1.991	8.445	3.701
	31. Kieff	124	1.878	7.823	3.613
	32. Tchernigoff	94	2.091	8.842	3.859
	33. Pultava	95	2.339	8.041	4.727
	34. Kharkoff	51	2.223	8.906	5.260
	35. Voronejs	71	2.240	9.553	3.918
	36. Don Cossacks	16	..	..	..
New Russia.	37. Ekaterinoslav	43	2.217	9.775	4.435
	38. Cherson	49	1.539	8.898	3.294
	39. Crimea	16	1.735	12.298	3.422
	40. Bessarabia	54	2.614	11.003	2.980
Wolga and Caspian Provinces.	41. Kazan	71	1.903	7.377	3.310
	42. Penza	91	2.111	8.225	4.738
	43. Simbirsk	68	1.976	9.055	3.693
	44. Saratoff	30	2.025	9.599	4.640
	45. Astrakan	3	1.858	8.750	2.990
	46. Caucasus, &c. . . .	5	3.031	14.317	5.026
Oural Provinces.	47. Orenbourg	16	2.665	9.804	3.533
	48. Perm	34	1.817	9.668	3.744
	49. Viatka	38	2.102	10.777	4.725
	50. Tobolsk	•9	1.772	10.138	3.574
51. Tomsk	1.461		7.589	2.395	
52. Irkoutsk	1.482		6.905	2.417	
Siberia.	53-5. Iakoutzk, Kams- chatka, Okhotsk	•35	..	..	..
	56. Eniseisk		1.392	9.735	3.307
	ENGLAND		366	1.528	6.250 ⁴	2.131

* It will be recollected that the English Return of Births is defective, and that the still-born are probably registered in Russia.

TABLE C.—Population, Marriages, Births, and Deaths, of the several Provinces or Governments in Russia, 1842.

Area in Square Geographical Miles, 60 to the Degree.*	Population.		Marriages.	Births.		Deaths.		Difference between Births and Deaths.					
	Total.			Males.	Females.	Total.	Males.	Females.	Males.	Females.			
	Males.	Females.											
<i>Northern Provinces :—</i>													
1. Archangel	243,392	107,615	114,784	222,399	1,774	4,781	4,516	9,297	2,618	2,551	5,169	2,163	1,965
2. Olonetz	37,664	113,715	122,855	236,570	2,348	5,792	5,771	11,563	3,638	3,307	6,945	2,154	2,464
3. Vologda	110,080	367,901	414,241	782,142	7,628	19,875	18,673	38,548	11,250	11,602	22,852	8,625	7,071
<i>Great Russia :—</i>													
4. Petersburg	11,360	229,427	236,364	465,791	4,151	11,724	11,295	23,019	10,133	8,912	19,045	1,591	2,383
5. Novgorod	33,120	340,731	368,892	709,623	6,744	16,572	17,003	33,575	11,067	10,962	22,029	5,505	6,041
6. Pskoff	16,720	350,874	369,450	720,324	5,627	17,321	16,345	33,666	10,307	10,218	20,525	7,014	6,127
7. Smolensk	15,264	523,302	541,348	1,064,650	12,164	27,183	25,996	53,179	17,811	17,698	35,509	9,372	8,298
8. Moscow	8,800	740,517	658,460	1,398,977	14,059	30,149	29,240	59,389	26,648	26,407	53,055	3,501	2,833
9. Tver	17,952	653,563	670,276	1,323,839	12,933	32,437	29,906	62,343	21,190	20,309	41,499	11,247	9,597
10. Jaroslaff	12,912	451,893	561,868	1,013,761	8,091	23,459	22,547	46,006	17,219	18,916	36,135	6,240	3,631
11. Kostroma	23,008	469,063	510,650	979,713	8,128	20,023	18,919	38,942	16,586	16,801	33,387	3,437	2,118
12. Nijgorod	14,048	529,139	574,716	1,103,855	11,206	25,532	24,803	50,335	27,577	26,918	54,495	2,045	2,115
13. Vladimir	13,296	545,371	583,451	1,128,822	10,622	24,717	24,011	48,728	22,465	22,991	45,456	2,252	1,020
14. Riazan	11,312	620,933	609,549	1,230,482	15,343	26,067	24,503	50,570	26,769	27,124	53,893	702	2,621
15. Tamboff	18,432	823,320	841,374	1,664,694	16,248	31,822	30,385	62,207	35,011	36,004	71,015	3,189	5,619
16. Toula	8,464	587,088	588,002	1,175,090	18,949	25,443	24,016	49,459	23,857	24,528	48,385	1,586	512
17. Kalouga	8,656	471,689	471,988	943,677	10,092	19,215	17,796	37,011	13,067	13,529	26,596	6,148	4,267
18. Orel	12,080	693,730	714,848	1,408,578	17,305	33,596	32,963	66,559	30,548	30,879	61,427	3,048	2,084
19. Koursk	12,704	901,663	907,127	1,808,790	†	†	†	†	†	†	†	†	†
<i>Baltic Provinces :—</i>													
20. Esthonia	5,040	135,524	147,252	282,776	2,440	5,733	5,438	11,171	4,079	3,869	7,948	55,005	37,532
21. Livonia	13,216	376,310	406,628	782,938	7,068	17,120	16,052	33,172	12,342	12,396	24,738	1,654	1,569
22. Courland	7,600	239,907	272,232	512,139	4,824	9,326	8,891	18,217	6,826	6,679	13,505	4,778	3,656
												2,500	2,212

* The area, as estimated by Mr. Koeppen, an officer in the Russian service, is given by McCulloch in German square miles, which have here been converted into geographical square miles by multiplying the original numbers by 16 ($= 4^2$). There are 15 German miles to the degree ($= 4 \times 15$) = 60 geographical miles.

† No entries.

<i>White Russia:—</i>													
21. Vitepsk	12, 448	363, 770	375, 262	739, 032	4, 232	16, 247	15, 770	32, 017	11, 206	10, 988	22, 194	5, 041	4, 782
22. Mochileff	13, 184	421, 096	414, 382	835, 478	8, 821	19, 940	18, 446	38, 386	12, 530	12, 362	24, 892	7, 410	6, 084
25. Minsk	31, 728	521, 083	521, 295	1, 042, 378	8, 080	18, 037	17, 411	35, 448	12, 951	12, 302	25, 253	5, 086	5, 109
<i>Lithuania:—</i>													
26. Wilna	18, 576	650, 417	632, 770	1, 283, 187	12, 277	29, 170	27, 216	56, 386	22, 136	21, 169	43, 305	7, 034	6, 047
27. Grodno	9, 120	401, 513	344, 533	746, 046	8, 026	16, 184	15, 093	31, 277	10, 472	10, 068	20, 540	5, 712	5, 025
28. Białostock	2, 592	133, 133	132, 811	265, 944	2, 088	5, 391	4, 932	10, 323	4, 085	4, 017	8, 102	1, 306	915
<i>Little Russia:—</i>													
29. Volhynia	17, 168	711, 074	699, 465	1, 410, 539	11, 814	31, 150	30, 153	61, 303	27, 049	26, 328	53, 377	4, 101	3, 825
30. Podolia	9, 216	762, 512	733, 233	1, 515, 745	15, 000	32, 825	30, 788	63, 613	27, 726	27, 877	55, 603	5, 099	2, 911
31. Kieff	12, 768	786, 075	799, 957	1, 586, 032	15, 023	31, 932	30, 651	62, 583	29, 095	28, 901	57, 996	2, 897	1, 750
32. Tchernigoff	14, 368	760, 126	738, 730	1, 348, 846	14, 191	30, 422	29, 593	60, 015	26, 403	26, 189	52, 592	4, 019	3, 404
33. Pultava	16, 992	802, 184	815, 867	1, 618, 051	19, 084	33, 514	32, 090	65, 604	37, 692	38, 565	76, 257	4, 178	6, 475
34. Charkoff	22, 176	565, 775	574, 835	1, 140, 580	12, 778	26, 030	25, 163	51, 193	30, 773	30, 236	61, 009	4, 743	5, 073
35. Voroneje	21, 664	750, 420	784, 671	1, 535, 091	17, 580	38, 357	36, 603	74, 960	31, 973	30, 741	62, 714	6, 384	5, 862
36. Don Cossacks	No returns.												
<i>New Russia:—</i>													
37. Ekaterinoslav	18, 976	403, 145	403, 321	806, 466	8, 943	19, 880	19, 545	39, 425	17, 715	17, 886	35, 601	2, 165	1, 659
38. Cherson	17, 584	436, 802	427, 815	864, 617	6, 586	19, 828	18, 238	38, 066	15, 157	14, 094	29, 251	4, 671	4, 144
39. Crimea	32, 640	274, 482	242, 593	517, 075	4, 208	15, 580	14, 255	29, 835	8, 928	8, 302	17, 230	6, 652	5, 953
40. Bessarabia	12, 704	361, 688	323, 561	685, 249	8, 457	18, 187	17, 413	35, 600	10, 255	9, 641	19, 896	7, 932	7, 772
<i>Volga & Caspian Provinces:—</i>													
41. Kazan	17, 664	603, 861	655, 786	1, 259, 647	12, 477	25, 068	23, 312	48, 380	21, 510	21, 704	43, 214	3, 558	1, 608
42. Penza	10, 784	482, 501	503, 707	986, 208	10, 634	21, 309	20, 120	41, 429	22, 801	23, 865	46, 666	1, 492	3, 745
43. Simbirsk	18, 236	625, 817	625, 512	1, 248, 329	12, 303	28, 438	27, 928	56, 366	23, 715	22, 992	46, 707	4, 753	4, 936
44. Saratoff	55, 568	836, 239	856, 008	1, 692, 247	17, 336	42, 132	40, 132	82, 170	41, 380	39, 720	81, 100	752	318
45. Astrakhan	45, 264	74, 182	66, 894	141, 076	1, 243	2, 958	2, 895	5, 853	2, 248	2, 000	4, 248	710	895
46. Caucasus, &c.	28, 848	83, 584	71, 371	154, 955	2, 163	5, 132	5, 086	10, 218	4, 079	3, 587	7, 666	1, 053	1, 499

TABLE C.—Population, Marriages, Births, and Deaths, of the several Provinces or Governments in Russia.—continued.

—	Area in Square Geographical Miles, 60 to the Degree.	Population.		Marriages.	Births.		Deaths.		Differences between Births and Deaths.		
		Males.	Females.		Total.	Males.	Females.	Total.	Males.	Females.	
<i>Oral Provinces :—</i>											
47. Orenbourg	104,560	863,974	853,651	22,754	42,116	41,573	28,940	30,163	13,176	11,410	
48. Perm	43,536	724,968	756,670	13,746	36,587	36,567	27,170	28,331	9,417	8,236	
49. Viatka	39,952	716,373	804,613	16,916	43,992	42,723	37,151	38,020	6,841	4,703	
<i>Siberia :—</i>											
50. Tobolsk	{ 1,421,088	397,309	398,624	7,065	20,496	19,915	15,265	14,245	5,231	5,670	
51. Tomsk		374,014	245,514	3,586	9,497	9,135	6,395	5,881	3,102	3,254	
52. Irkutsk		257,550	239,077	3,542	8,609	7,900	6,276	5,779	2,333	2,121	
53. Yakoutsck	No returns.										
54. Kamschatka	2,592,000										
55. Okhotsk	{ 123,441	No returns.		1,413	5,375	4,510	4,016	3,358	1,359	1,152	
56. Eniseisk		101,537									
<i>Trans-Caucasian Provinces :—</i>											
*57. Georgia, Imeritia . .	54,096	..	..	†	†	†	†	†	†	†
<i>Caspian Provinces</i>											
Kertch-Enikil (townships).	†	†	†	†	234	203	238	110	4	93	
Izmail (township and de- pendencies) . . . . .	..	6,849	3,476	102	804	748	575	355	229	393
Odessa (township) . . .	..	22,616	13,633	289	1,762	1,429	1,503	1,054	259	375
Taganrog (township and) district) . . . . .	..	40,960	34,932	591	2,052	1,789	1,219	1,118	833	671
<i>Black Sea—Cossacks' country</i>											
Oural—Cossacks' country .	No returns received.		No returns received.								

† No returns.

* (57.) The sex not distinguished in 3 of 11 districts,